

**Name**

**Dr. P. K. Jain**

**Designation**

**Scientist “G” & Team Leader**

Center for Carbon Materials

**Qualification**

Ph.D. (Carbon-Carbon Composites), M.Phil & M.Sc

**Experience**

1988-1994 Research Scholar in National Physical Laboratory

NPL, New Delhi



**Research Areas of Interest**

- Exfoliated Graphite & its Products
- Synthesis, Characterization and Applications of Nanostructured Carbon Materials (Carbon Nanotubes, Graphene etc)
- Conducting Polymers,
- Structural Nanocomposites (Polymer & Metal matrix)
- Nanofluids & Nanolubrications
- Carbon Fiber Reinforced Composites

a) **Honors and Awards**

- Awarded **BD BANGUR AWARD** from **Indian Carbon Society, New Delhi** on Outstanding contribution to Carbon Composites and Carbon nano-materials in November, 2009.
- Awarded **BOYSCAST Fellowship** from Government of India (DST) to work on **Advanced Materials (Carbon Nanotubes)** for a period of six months (March 2001 to September 2001) at Institute of Inorganic Chemistry, Novosibirsk, **Russia**.
- Worked as “**VISITING SCIENTIST**” in INSTITUTE of GAS, National Academy of Sciences Ukraine (NASU) of Kiev and ZAVALIA GRAPHITE COMBINE, Zavalia, **UKRAINE**, for a period of one month during 1998.
- Awarded “**Best Scientist Award in Physics 2016**” by **PEARL Foundation Educational Educational Excellence Awards to Higher Education** in India - 2016, Madurai Tamilnadu, India
- Awarded “**Best Scientist Award**” by Academic Brand Award 2017, NCR, Delhi in 2016

- Got the “**CERTIFICATE OF MERIT**” for the presentation of the paper in International Conference **POLYMER-91** organised by NCL, in PUNE.
- **CERTIFICATE OF MERIT** from **AGRA UNIVERSITY** in M.Sc.
- Elected as Council Member of Indian Carbon Society Since 1999 and **Joint Secretary** since Feb. 2007.
- Member of Bureau of Indian Standard (BIS) Committee for Nano-materials of India

**a. Membership with Professional and Scientific Bodies**

- Indian Carbon Society (Joint Secretary)
- Aeronautical Society of India
- Materials Research Society of India (MRSI)
- Indian Society of Materials Processing & Engineering (**ISAMPE**)
- **Executive Member** of Nano & Molecular Society of India
- **Executive Council Member** of Indian Institute of Metals (IIM), Hyderabad Chapter

**b. Any Other Relevant Information**

- **Convener** for Joint Indo-Belarus Workshop and forum.
- Guest Editor of Journal of Nanoscience and Nanotechnology
- Member of Board of Studies in Various Universities and Engineering Colleges.
- Reviewer for many Peer Review Journals and Ph. D. Thesis for many Universities (IIT, Roorki, IIT Kanpur, NIT, Warangal, JNTU, Hyderabad, Andhara University, Guwahati University, Manipal University, VIT, Geetam University, Karunaya University, etc)
- Registered Ph.D. Supervisor and Examiner for many Universities
- Organized various lectures and conferences, workshops and members of various committees.
- **Transferred the Technology of Exfoliated Graphite and its Value Added Products to M/s Falcon Industries, Hyderabad for commercial production**

- Developed GASKET for Ministry of Railways for Wheel pouring process (Wheel & Axle Plant, Bangalore).
- Developed pure GRAPHITE **SEALS** for Turbine Engine applications
- Developed REINFORCED GRAPHITE **CYLINDER GASKET SHEET** for Automobile applications
- Developed GRAPHITE **WAVE SHAPER** for Defence application TBRL, Chandigarh.
- Developed EXFOLIATED GRAPHITE BASED **BIPLOAR PLATES** for Fuel Cell Applications.
- Studied the oil adsorption capability of Exfoliated graphite powder with different grades of oils (Indian Patent Granted)
- **Transferred the technology of Evaporation Boat used in Metallurgy applications to M/s SUPERVAC OILS, New Delhi**
- **Consultancy project for Tamilnadu Minerals (TAMIN) a PSU under Tamilnadu State Government for Beneficiation of Graphite Ore along with Ukraine Experts**
- Working in the area of Synthesis of Carbon nanomaterials especially Carbon Nanotubes and Graphene and their various applications.
- Developed Vertically Aligned Carbon Nanotubes based Cold Cathode for Field Emission application for MTRDC, DRDO
- Developed unidirectional and bi-directional Carbon-Carbon Composites from Various grades of Carbon fibers and fabric for aerospace Brake Pad applications and also developed the **economical** carbon-carbon composites made from Oxidised PAN(PANOX) fibers with in-situ carbonization process.

## **List of Papers or Chapter in Books**

### **1. Nano-electron Emitters for Vacuum Electron Devices**

B. Santosh Sumar, M. Ravi, KS Bhat, Lalit Kumar, J.S. Rawat, J.C. Chowdhary, Balaji Padya and **P.K. Jain**

**Nanotech Insight (Special Issue), Vol. 4 pp 94-97 (2014)**

### **2. Carbon Nanotubes –Graphite nanosheets / Polyaniline Conducting Polymer**

**P.K. Jain**, Balaji Padya, G.Venkat Ramana & G. Pdamambahm

**Nanotech Insight, 3 (1), 21-22 (2012)**

### **3. Oil Spill Management using Exfoliated Graphite,**

**P.K. Jain** & G. Sundararajan,

**Quarterly Journal of Department of Science & Technology (DST) , India  
TARANG, 2007 Vol. 8 pp 85-91**

### **4. Effect of Carbon fiber type on the mechanical Performance of Carbon-carbon composites**

**PK. Jain**, O.P. Bahl & LM Manocha

***SAMPE (Society of Advanced Materials & Processing Engineering) Quarterly  
Vol. 23 No 3 pp 43-47 (1992)***

a) **List of total publications in descending chronological order**

1. Solid waste-derived carbon as anode for high performance lithium-ion batteries  
Ravi Kali, Balaji Padya, T.N. Rao, **P.K. Jain**  
*Diamond & Related Materials* **98** (2019) 107517
2. **A facile co-solvent strategy for preparation of graphene nanoplatelet powder: An industrially viable innovative approach**  
Balaji Padya, N. Narasaiah, **P.K. Jain**, T.N. Rao  
*Ceramics International* **45** (2019) 13409–13413
3. **Ultra-thin 2D Carbon Material as Engine Oil Additive for Studying Anti-Friction and Anti-Wear Behaviour**  
N.Ravi Kiran, Balaji Padya, A. Krishnaiah and **P.K. Jain**  
*International Journal of Modern Engineering and Research Technology* **Volume 5** | Special Issue | June 2018 pp 19-30
4. **Ni nanoparticles prepared by simple chemical method for synthesis of Ni/NiO multilayered graphene by CVD**  
Mokhtar Ali , Nagarjuna Remalli, Venkataramana Gedela, Balaji Padya, **PK Jain**, Ahmed Al-Fatesh, Usman Ali Rana, Vadali V.S.S. Srikanth  
*Solid State Sciences* **64** (2017) pp 34 -40
5. **Palladium Decorated Silicon Carbide Nanocauliflowers for Hydrogen Gas Sensing Application**  
Amit Sanger, **P.K Jain**, YK Mishra, & Ramesh Chandra  
*Sensors and Actuators B: Chemical*, **242**, pp 694-699 (2017)
6. **Silicon Carbide Nanocauliflowers for symmetric supercapacitor Devices**  
Amit Sanger, Ashwini Kumar, Arvind Kumar, **P.K. Jain**, YK Mishra and Ramesh Chandra  
*Industrial & Engineering Chemistry Research*, **55**, pp. 9452 – 9458 (2016)
7. **Fabrication & Excellent Dielectric Performance of Exfoliated Graphite Sheets**  
Girish M Joshi, Kalim Deshmukh and **P.K Jain**,  
*Journal of Nano and Electronic Physics*, **Vol. 8 No.1**, 01022 (3pp) (2016)
5. **Preparation and characterization of graphene nanoplatelets integrated polyaniline based conducting nanocomposites**  
M.R.Tokala, Balaji Padya, **P.K. Jain**, Ch. Shilpa Chakra.  
*Superlattices and microstructures* **82**, 287-292, 2015.
6. **Electrochemically active polyaniline (PANI) coated carbon nanopipes and PANI nanofibers containing composites**  
Ramana G.V., Kumar P.S., Srikanth V.V.S.S., Padya B, **Jain P.K.**

*Journal of Nanoscience and Nanotechnology* 15(2), 1338-1343 (2015).

7. **Rapid mixing chemical oxidative polymerization: An easy route to prepare PANI coated small diameter CNT/PANI nanofibers composite thin film**  
Ramana G.V, Balaji Padya, Srikanth V.V.S.S and P.K. Jain.  
*Bulletin of Material Science* 37(3),585-588 (2014).
8. **Carbon nanotube-polyaniline nanotube core-shell structures for electrochemical applications**  
G. Venkata Ramana, V.V.S.S Srikanth, Balaji Padya, P.K. Jain.  
*European polymer journal*, 57, 137-142, (2014).
9. **Production of Irregular Shape Graphene Flakes from Exfoliated Graphite**  
Shyam K Choudhary, Ravi K Srivastava and P.K. Jain  
*Graphene, Vol., 2, pp 1-3 (2014)*
10. **Nano electron emitter for vacuum devices**  
K.Santosh Kumar, M.Ravi, K.S. Bhat, L Kumar, J.S. Rawat, P.K. Chowdhary, P.K. Jain and Balaji Padya  
*Nanotech insights- special issue on nanomaterials and nanocomposites, Vol.5 (3-4), p 94-97, 2014.*
11. **Nitrogen incorporated highly aligned carbon nanotube arrays thin film grown from single feed stock for field emission**  
Balaji Padya, Dipankar Kalita, P K Jain, G. Padmanbham, M. Ravi and KS Bhat  
*Journal of Nanoelectronics and Optoelectronics, Vol. 8, 1-5, 2013*
12. **Influence of nitrogen doping concentration morphology and microstructure of Nitrogen doped super-aligned carbon nanotube forest**  
Subrahmanyam A.V.B, Balaji Padya, and Jain P.K.  
*Journal of Advanced Microscopy* 8 (4), 300-304 (2013).
13. **Characterisation of Intermediates in the synthesis of Reduced Graphene Oxides through Sequential De-Oxygenation**  
A.K. Mishra, C. Srinath, P.K. Jain, Balaji Padya, M. Chopakar  
*Nano-trends: A Journal of Nanotechnology and Its Applications, 14 (2), 1-9, 2013*
14. **Flame synthesis of carbon nano onions using liquefied petroleum gas without catalyst**  
Vivek Dhand, J. Sarada Prasad, M. Venkateswara Rao, S. Bharadwaj, Y. Anjaneyulu & PK Jain  
*Materials Science and Engineering C* 33 (2013) 758–762
15. **Self Organized growth of bamboo like carbon nanotubes arrays for field emission properties**  
Balaji Padya, Dipankar Kalita, P K Jain, G. Padmanbham, M. Ravi and KS Bhat  
*Applied Nanoscience* (2012) 2:253-259

16. **Carbon Nanotubes –Graphite nanosheets / Polyaniline Conducting Polymer**  
**P.K. Jain**, Balaji Padya, G.Venkat Ramana & G. Pdamambahm  
*Nanotech Insight*, 3 (1), 21-22 (2012)
17. **Wear behaviour of tungsten carbide particles reinforced copper alloy composites**  
B.M. Girish\*, Basawaraj and B.M. Satish & **P.K. Jain**  
*Int. J. Microstructure and Materials Properties*, Vol. 7, No. 6, 2012
18. **Tungsten carbide reinforced copper composites for thermal management applications**  
BM Girish, Basawaraj, BM Satish and **PK Jain**  
*J Materials: Design and Applications* 226(4) 316–321 (2012)
19. **Electrically conductive small-diameter carbon nanotubes/polyaniline nanofibers composite thin film”**  
G. Venkata Ramana, Balaji Padya, Vadali V. S. S. Srikanth, **P. K. Jain**  
*Bulletin of Materials Science journal* 2013.
20. **Electrically Conductive Carbon Nanopipe – Graphite nanosheet / Polyaniline Composites**  
G. Venkat Ramana, Balaji Padya, Vadali VSS Srikanth, **P.K. Jain\***, G. Padmanabham & G. Sundararajan,  
*Carbon*, 49, pp 5239 -5245 (2011)
21. **Pool Boiling Characteristics of Multiwall Carbon Nanotube (CNT) based Nanofluids Over a Flat Plate Heater**  
K. Kathravan, Ravi Kumar, Akhilesh Gupta, Ramesh Chandra & **P.K. Jain**  
*International Journal of Heat & Mass Transfer*, 54, pp 1289–1296 (2011)
22. **An investigation into the effects of graphite particles on the damping behavior of ZA-27 alloy composite materials,**  
B.M. Girish, K.R. Prakash, B.M. Satish , **P.K. Jain** , Phani Prabhakar,  
*Materials and Design* 32 (2011) 1050–1056
23. **Thermal & Mechanical Properties of Multi-scale Carbon Nanotubes and Carbon Fibers Reinforcement in Epoxy Hybrid Nanocomposites**  
**P.K.Jain**, Balaji Padya, P.S.Rao, KMK Chowdary, B.Aswanikumar, G. Anusha  
*Journal of Nanostructured Polymers and Nanocomposites* 7/3, pp 81 -86 (2011)
24. **Production of hydrogen and carbon nanofibers through the decomposition of methane over activated carbon supported Pd catalysts,**  
J. Sarada Prasad, Vivek Dhand, V. Himabindu, Y. Anjaneyulu, **P K Jain**, Balaji Padya ,  
*International Journal of Hydrogen Energy* 35, 10977-10983 (2010)
25. **Synthesis of Vertically aligned CNTs Arrays by Injection method in CVD**  
Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**,  
*Journal of Nanoscience and Nanotechnology*, Vol. 10, pp 4960- 4966 (2010)

26. **Purification of MWCNT synthesized by arc discharge set up**  
Y. Malathi, Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**  
*Carbon Letter, Vol. 11, No. 3, pp 184-191 (2010)*
27. **Mechanical Properties of MWCNT reinforced Polymer Nano-composites,**  
G. Venkatramana, Balaji Padya, N. Kumar K.V.P. Prabhakar & **P.K. Jain,**  
*Indian Journal of Engineering and Materials Sciences, Vol. 17, pp 331- 37 (2010).*
28. **Wear Behavior of Graphite Particles Reinforcement in ZA-27 Alloy Composites for Tribological Applications,**  
K.R. Prakash, B.M. Girish, B.M. Satish and **P.K. Jain**  
*Journal of Mechanical Engineering, Vol. 1, No2 (2010)*
29. **Pool Boiling Characteristics of Carbon Nanotubes based Nanofluid over a Horizontal Heater**  
R. Kathiraman , R. Kumar A. Gupta, R.Chandra and **P.K. Jain**  
*Journal of Thermal Sciences and Engineering Applications (J. Thermal Science Engg. .Applications (ASME) Vol 1 pp 2200-07 (2009)*
30. **Estimation of Cavitation Pressure to Disperse Carbon Nanotube in Aluminum Metal Matrix Nanocomposites,**  
Suneel D, Nageswara Rao D, Satyanaryana Ch & **P.K. Jain,**  
*Asian International Journal of Science & Technology in Production and Manufacturing Engineering (AIJSTPME) Vol 1 (1) pp-53-62 (2008)*
31. **Oil Spill Management using Exfoliated Graphite,**  
**P.K. Jain** & G. Sundararajan,  
*Quarterly Journal of DST , India TARANG, 2007 Vol. 8 pp 85-91*
32. **Development of Carbon Nanotubes and polymer composites therefrom**  
**PK Jain,** G. Sundararajan, Y.R. Mahajan, A.V. Okotrub, N.F. Yudanov and AI Romanenko  
*Carbon Science Vol. 3. No. 3 September, 2002, pp- 1-11*
33. **Carbon-Carbon Composites made with Oxidised PAN (PANEX) Fibers**  
T.L. Dhama, O.P. Bahl and **PK. Jain**  
*Carbon Vol. 33 No 11, pp 1517- 1524 (1995)*
34. **Charaterisation of Carbon-Carbon Brake pads**  
T.L. Dhama, O.P. Bahl and **PK. Jain**  
*Metal and Materials Processing Vol 5. No. 3 pp 169-176 (1993)*
35. **Effect of Carbon fiber type on the mechanical Performance of Carbon-carbon composites**  
**PK. Jain,** O.P. Bahl & L.M. Manocha  
*SAMPE Quarterly Vol. 23 No 3 pp 43-47 (1992)*
36. **Surface modification Effect on the Thermal & Mechanical Properties of multiwalled Carbon Nanotubes /Epoxy Nanocomposites**



G. Venkat Ramana, Balaji Padya & **P.K. Jain**  
*IEEE Proceedings 978-1-4673-0074-2/11, 110-113, 2011*

37. **Highly ordered nitrogen doped carbon nanotube novel structures of aligned carpet for enhanced field emission propertied**  
Balaji Padya, **P.K. Jain**, G. Padmanabham. M.Ravi, K.S. Bhat,  
*AIP Conf. Proceedings 1538, 196-199 (2013)*
38. **Role of buffer gas pressure on the synthesis of carbon nanotubes by arc discharge method**  
Manikantan Kota, Balaji Padya, G. Venkat Ramana, **P.K. Jain**, G. Padmanabham  
*AIP Conf Proceedings, 1538, 200-204 (2013)*
39. **Thermal Properties of Multi-Walled Carbon Nanotubes –Graphite Nanosheets / Epoxy Nanocomposites**  
G.Venkata Ramana, Balaji Padya, Vadali V. S. S. Srikanth and **P. K. Jain**  
*AIP Proceedings- 1538, 205 – 208 (2013)*
40. **Synthesis of Amorphous Carbon Nanofibers Using Iron Nanoparticles as Catalysts**  
Mokhtar Ali, G.VenkataRamana, BalajiPadya, Vadali V. S. S. Srikanth and **P. K. Jain**  
*AIP Proceedings-1538, 234 (2013)*
41. **Development of Carbon Nanotubes and development of their Composites**  
**P.K. Jain**  
*National Workshop on Defence Systems Applications organized by DRDO, Laboratories, Hyderabad during 7-8 Feb. 2008.*
42. **Development of Carbon Nanotubes and Its Applications**  
**P.K. JAIN**  
*National Workshop on Nanomaterials organized by GMR institute of Technology Rajam, AP during 22 Feb, 2008*
43. **Purification of Multi walled carbon nanotubes (MWCNTs) synthesized by arc discharge set up**  
Y. Malathi, K.V.P. Prabhakar & **P.K. Jain**  
*International Conf. on Nano Science and Technology (ICONSAT-20080 held at Chennai during 27-29 Feb. 2008*
44. **Synthesis of aligned carbon nanotubes arrays by CVD injection method**  
Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**  
*International Conf. on Nano Science and Technology (ICONSAT-2008 held at Chennai during 27-29 Feb. (JNN09\_059A)*
45. **Dispersion & rheological aspects of MWCNT in polymer matrix**  
Y. Malathi, *Rajkiran*, Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**  
*Conf. on MEMS-NEMS Engineering at Rajam during Aug. 2008 pp.114-117*
46. **Grafting of carbon nanotubes arrays on Carbon Fibers by Spray pyrolysis,**

Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**  
*First Asian Conf. on Carbon held at New Delhi during Nov., 2009 pp-73*

47. **Synthesis of nanocarbons using arc discharge under water**  
K.V.P. Prabhakar, Balaji Padya & **P.K. Jain**,  
*First Asian Conf. on Carbon held at New Delhi 2009 pp-140*
48. **Development of Carbon Nanotubes filled Copper Matrix Composites**  
R. Naresh Kumar, Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**  
*Int. Conf. on Nano-science& Techn. held at IIT, Mumbai, during Feb.10, pp 198.*
49. **Development of Flexible Conductive Paper using Carbon Nanotubes for Energy Storage Applications**  
M. Srikanth, Balaji Padya & **P.K. Jain**  
*Int. Conf. on Nanotechnology & Functional Materials (ICNTFM-12), Hyderabad*
50. **A facile Method for high Yield of Graphene Nanosheets from Exfoliated Graphite**  
S. Raghuram Reddy, Balaji Padya , **P.K. Jain** & G. Padmanabham  
*Int. Conf. on Nanotechnology & Functional Materials (ICNTFM-12), Hyderabad*
51. **Influence of Nitrogen Content on microstructure and Raman spectrum of Bamboo shaped multiwall Carbon nanotubes arrays**  
Balaji Pady, **P.K. Jain** & G. Padmanabham  
*Int. Conf. on Nanoscience and Nanotechnology (ICONSAT-2012), Hyderabad*
52. **Aligned Carbon nanotubes arrays for field Emission applications**  
**P.K. Jain**, Balaji Padya & G. Padmanabham  
*Int. Conf. on Nanoscience and Nanotechnology (ICONSAT-2012), Hyderabad*
53. **Development of Composite Polymeric Films containing Carbon Nanotubes**  
**P.K. Jain**, A.V. Okotrub, N.F. Yudanov, A.I. Romanenko and Ph.A. Pruss  
*International Workshop on Fullerenes and Its Atomic Clusters (AWFAC-2001) held at St. Petersburg, Russia on July, 2-6, 2001, pp 121.*
- 44.. **Development of Carbon Nanotubes and Polymer Composites therefrom**  
**P.K. Jain**, G. Sunadarajan, Y.R. Mahajan, A.V. Okotrub, N.F. Yudanov, and A.I. Romanenko  
*National Conference on Carbon 2001 held at Vallabh Vidya Nagar, Gujarat, on 19-20 October, 2001, pp 249 - 255*
- 55.. **Synthesis of Multiwall Carbon Nanotubes based Polymer Composites**  
**P.K. Jain**, G. Sundararajan, Y.R. Mahajan, A.V. Okotrub, NF. Yudanov and A.I. Romanenko,  
*13<sup>th</sup> Annual General Meeting of MRSI held at Hyderabad on Feb.7-9, 2002*
56. **Carbon Nanotubes and their Field Emission Properties**  
**P.K. Jain**, Y.R. Mahajan and G. Sundararajan  
*National Conference on "Smart materials in Defence Systems"organized by DMRL, Hyderabad during Sept. 2002 pp 45-48*

57. **Field Emission properties of Multiwall carbon Nanotube and Composites Films**  
**P.K. Jain**, Y.R. Mahajan, Sundararajan, A.V. Okotrub, and A.V. Guselinikov  
*National Conference on CARBON- 2003 held at DMSRDE, Kanpur, (2003) pp 440-446*
58. **Frequency Depended cold emission Properties of arc produced multiwall carbon Nanotubes –polymer composites**  
**P.K. Jain**, G. Sundararajan, A.V. Okotrub, A.V. Guselinikov, VV Belvin and L.G. Bulusheva  
*International Conference on Carbon Materials for Energy Applications -CARBON- 2004 held at NPL, New Delhi (2004) pp 85-91*
59. **Carbon – From Coal to Carbon Nanotubes**  
**P.K. Jain**  
*Seminar on “Science for Society” organized by IICT, Hyderabad during Feb. 2007 pp -5*
60. **Effect of Buffer Gas Pressure on the development of Carbon Nanotubes.**  
K.V.P. Prabhakar, **P.K. Jain** & R. Sundaresan  
*Carbon –2006 National Conf. On Carbon held at Bhopal during 11-12 Nov. 2006, pp 140-144*
61. **Development of Carbon nanotubes through arc discharge set up.**  
**P.K. Jain**, K.V.P Prabhakar & R. Sundaresan  
*Carbon –2006 National Conf. On Carbon held at Bhopal during 11-12 Nov. 2006, pp 121*
62. **High Temperature Synthesis of Carbon Nanotubes In Arc – Discharge Process**  
**P.K. Jain**, K.V.P Prabhakar & R. Sundaresan  
*Fifth ISAMPE National Conf. on Composites – INCCOM-5” held at HYDERABAD during 24-25 November, 2006, pp – 612 -617.*
63. **Development of Carbon Nanotubes and development of their Composites**  
**P.K. Jain**  
*National Workshop on Defence Systems Applications organized by DRDO, Laboratories, Hyderabad during 7-8 Feb. 2008*
64. **Development of Carbon Nanotubes and Its Applications**  
**P.K. Jain**  
*National Workshop on Nanomaterials organized by GMR institute of Technology Rajam, AP during 22 Feb, 2008*
65. **Purification of Multi walled carbon nanotubes (MWCNTs) synthesized by arc-discharge set up**  
Y. Malathi, K.V.P. Prabhakar & **P.K. Jain**  
*International Conf. on Nano Science and Technology (ICONSAT-20080 held at Chennai during 27-29 Feb. 2008*

66. **Synthesis of aligned carbon nanotubes arrays by CVD injection method**  
Balaji Padya, K.V.P. Prabhakar & **P.K. Jain**  
*International Conf. on Nano Science and Technology (ICONSAT-20080 held at Chennai during 27-29 Feb. 2008*
67. **Exfoliated Graphite Material with Reinforcement for Automobile Applications**  
**P.K. Jain**, M. Subrahmaniam & G. Sundararajan  
*Indo-Japan Seminar on “Manufacturing Science of Advanced Composite Materials & on Advanced Manufacturing Processing” at IIT, Kharagpur & Gangatok Sikkim during 20-25 Feb.2000, pp 35 – 38*
68. **Automobile Gaskets from Expanded Graphite**  
**P.K. Jain**, M. Subrahmaniam & G. Sundararajan  
*National Conference on Carbon-99 at New Delhi During 25-26 November 1999, pp 257*
69. **Effect of Reinforcement and Process parameters on the Performance of Graphite Gasket Sheet**  
**P.K. Jain**, Vipin Jain, M. Sudhakar, A Ganga Bhavani and G. Sundararajan  
**CARBON-2004 - International Conference on Carbon Materials for Energy Applications, held at NPL, New Delhi (2004) pp 289 – 297**
70. **Carbon-carbon composites with different PAN and Pitch based carbon fibers**  
L.M. Manocha, O.P. Bahl and **P.K. Jain**  
**Indo-Japanese Workshop on Pitch and Pitch Based Products, pp 143, 1989, New Delhi**
71. **Fiber/Matrix interactions in carbon fiber reinforced composites**  
L.M. Manocha, O.P. Bahl and **P.K. Jain**  
**Int. Conf. POLYMER – 91, held at Pune, pp 943, 1991.**
72. **Thermal conductivity measurements Carbon-Carbon composites**  
**P.K. Jain** & O.P. Bahl  
**CARBON-92, Int. Conf. Carbon, held in Essen, Germany, 1992.**
73. **Thermal properties of Carbon-Carbon composites**  
**P.K. Jain** (Personal Presentation) & O.P. Bahl  
**21<sup>st</sup> Biannual Conf. On CARBON held in New York, USA, 1993.**
74. **Mechanical properties of carbon-carbon composites made with PANOX fiber**  
O.P. Bahl, TL. Dhami & **P.K. Jain** (Personal Presentation)  
**21<sup>st</sup> Biannual Conf. On CARBON held in New York, USA, 1993**
75. **Development of Carbon-Carbon Composites – An Overview**  
O.P. Bahl, TL. Dhami & **P.K. Jain**  
**Int. Conf. On Carbon In AUSTRALIA, 1993**
76. **Micro-structural studies on Carbon-Carbon Composites Brake Pad Material**

O.P. Bahl, T.L. Dhami & **P.K. Jain**  
Int. Conf.. ISAMPE held at Bangalore, pp IV- 20-29, 1993

**77. Mechanical performance of carbon fiber reinforced composites**

**P.K. Jain** & O.P. Bahl  
Conf. On Newer Forms of Carbon held at Bangalore, pp 142, 1992

**78. Development of PANOX (Oxidised PAN) fiber reinforced Composites**

T.L. Dhami, O.P.Bahl & **P.K. Jain**  
Conf. On Newer Forms of Carbon held at Bangalore, pp 142, 1992

**79. Role of calcined petroleum Coke as filler in the Development of Carbon-Carbon composites**

T.L. Dhami, O.P.Bahl R.K. Seth & **P.K. Jain**  
5<sup>th</sup> AGM of MRSI at Hyderabad, 1994.

**80. Characterization of Brake Pad Materials**

T.L. Dhami, O.P.Bahl & **P.K. Jain**  
International Conference On Carbon at Bhopal, 1994

**81. Carbon fiber reinforced Carbon Composites at N.P.L**

O.P.Bahl, T.L. Dhami & **P.K. Jain**  
Symposium on Advanced Composites & Structures, Hyderabad, pp 141, 1994.

Intellectual Property Rights (IPR) / Technological Inventions and Innovations / New Products

**‘A Process of Producing Chemically Treated Expanded Graphite and Device having such Graphite’ – OIL COMB (Patent No. :- 187654)**

**P.K. Jain** & M. Subrahmaniam